

Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-8. (Canceled)

Claim 9. (New) A process for preparing (meth)acrylic acid copolymers, which comprises the steps:

- (1) free-radically polymerizing (meth)acrylic acid, thereby resulting in a polymer I;
and
- (2) amidating polymer I resulting from process step (1) by reaction with at least one aminoalkanesulfonic acid, wherein the molar ratio of monomers in polymer I to aminoalkanesulfonic acid ranges from 15:1 to 2:1 and the (meth)acrylic acid copolymer comprises:
 - (a) from 30 to 95 % by weight of a poly(meth)acrylic acid basic framework,
 - (b) from 5 to 70 % by weight of amide units based on aminoalkylsulfonic acids,

the total weight of the units in the sulfonated polymer being 100 % by weight and all weights being based on the sulfonated polymer.

Claim 10. (New) The process according to claim 9, wherein process step (1) is carried out at temperatures ranging from 100 to 200° C.

Claim 11. (New) The process according to claim 9, wherein process step (2) is carried out at temperatures ranging from 140 to 250° C.

Claim 12. (New) The process according to claim 9, wherein the molar ratio of monomers in polymer I to aminoalkanesulfonic acid ranges from 11:1 to 3:1.

Claim 13. (New) The process according to claim 9, wherein polymer I in solution has a solids content of 10 to 70 %.

Claim 14. (New) A (meth)acrylic acid copolymer which is obtainable by a process according to claim 9, wherein the sulfoalkylamide structural units are randomly distributed in the (meth)acrylic acid copolymer.

Claim 15. (New) The (meth)acrylic acid copolymer according to claim 9, wherein the weight-average molecular weight of the sulfonated polymer ranges from 1000 to 20,000 g/mol.

Claim 16. (New) A process for stabilizing phosphates and/or phosphonates and/or zinc ions in aqueous systems, which comprises:

adding to the system a polymer according to claim 14.

Claim 17. (New) A method of treating water, inhibiting the development of scale in petroleum production and/or inhibiting corrosion in aqueous systems, comprising:

performing said treatment and/or inhibition in the presence of the (meth)acrylic acid copolymer of claim 14.

Claim 18. (New) A formulation for water treatment, scale inhibition in petroleum production and/or corrosion inhibition, comprising:

the (meth)acrylic acid copolymer according to claim 14.